

**SYMBOL TIMING FOR MIMO OFDM
AND OTHER WIRELESS COMMUNICATION SYSTEMS**

ABSTRACT OF THE DISCLOSURE

5 Symbol timing for a wireless communication system, such as a multiple-input multiple-output
(MIMO) orthogonal frequency division multiplexing (OFDM) wireless LAN system, is determined by
summing the powers for an appropriate set of channel impulse responses, integrating this power
summation over an appropriate window (e.g., equivalent to the guard interval), and identifying the time at
10 which the maximum integration occurs. Depending on the implementation, symbol timing can be
determined for each receiver branch individually or for all receiver branches jointly. In either case, the
determined symbol timing(s) can minimize the amount of inter-symbol and inter-channel interferences
that are invoked in the system.